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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,947	09/29/2000	Mitsuaki Oshima	2000_1329	7026

7590 02/04/2004

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EXAMINER

LE, AMANDA T

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 02/04/2004

28

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,947

Applicant(s)

OSHIMA ET AL.

Examiner

Amanda T Le

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2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 23. 6) ☐ Other: _____

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1. The request filed on 12/01/03 for a Continued Examination (RCE) under 37 CFR 1.114 is acceptable and a RCE has been established. An action on the RCE follows.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed limitations of "a first ECC encoder", "a second ECC encoder", "a first ECC decoder" and "a second ECC decoder" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 28-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed limitations regarding the arrangement of "a first ECC encoder", "a second ECC encoder", "a first ECC decoder" and "a second

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ECC decoder” is not disclosed in the section of the specification indicated in the Remarks.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung et al (5,214,656) in view of Matsutani et al (4,769,819).

Regarding claims 28, 30, 31, 33, 34, 36, 37 and 39, Chung et al discloses a multiplexed coded modulation system (Fig. 9) comprising the following claimed limitations: “trellis encoder” (131, 121, col. 7, lines 8-10), “a modulator and transmitter” (150). Chung et al differs from the claimed invention in that the prior art reference discloses the “first channel encoder” (116, 115) as a RS encoder (col. 7, lines 5-8), rather than “a first RS encoder” and “a second RS encoder” as claimed.

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Matsutani et al discloses a two stage coding method (Fig. 3) wherein a combination of a first RS encoder (2) and a second RS encoder (4) is employed to provide error correction protection for input data signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chung et al's system using Matsutani et al's teachings of using a two stage coding mechanism to obtain the system or method as claimed. By modifying Chung et al's "first channel encoding" process of only the "more important data" branch (or both "less important data" and "more important data" branches) to include a two stage RS encoding process, a higher burst error correction ability is obtained with simpler RS encoding circuit (see col. 1, lines 5-13, col. 3, lines 7-col. 4, line 8).

Regarding claim 29, 30, 32, 33, 35, 36, 38 and 39, Chung et al discloses a corresponding receiving apparatus (Fig. 2) for receiving the signals transmitted by the transmitting apparatus (Fig. 1). The process carried out by the receiving apparatus is the inverse of that of the transmitting apparatus. Accordingly, the receiving apparatus for receiving signals transmitted by the transmitter shown in Fig. 9 would include "a demodulator", "a second (trellis) decoder", and "a first (RS) decoder". For the same reasons stated above, one of ordinary skill in the art at the time of the invention would have been motivated to implement a system or a method as claimed, using Chung et al's and Matsutani et al's teachings (see also Matsutani et al, Fig. 4) collectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Amanda Le** whose telephone number is **(703) 305-4769**.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

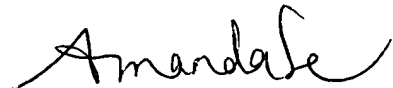
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



AMANDA T. LE
PRIMARY EXAMINER